

In the Claims:

1. - 3. Cancelled

4. (Previously Presented) Apparatus for detecting an alignment mark on a semiconductor body, such alignment mark comprising a pair of sets of parallel lines disposed on the semiconductor body, the parallel lines in one of the sets being disposed orthogonal to the parallel lines in the other one of the set, the two sets of parallel lines being in an overlaying relationship, such apparatus comprising:

an optical system for scanning an alignment illumination comprising a pair of orthogonal lines of impinging light over the surface of the alignment mark, one of such pair of impinging light lines being orthogonal to, and laterally displaced from, the other one of such pair of impinging light lines, impinging light being reflected by the alignment lines in the surface of the semiconductor when such impinging light is over to provide a pair of laterally displaced beams of reflected light; and

a pair of laterally spaced detectors, each one of the detectors being positioned to detect a corresponding one of the laterally displaced beams of reflected light.

5. (Previously Presented) The apparatus of claim 4, wherein a first impinging light line is projected onto the wafer surface at an angle of -45° with respect to a Y axis, the Y axis orthogonal to the lower and top outer peripheral portion of the semiconductor body.

6. (Previously Presented) The apparatus of claim 5, wherein a second impinging light line is projected onto the wafer surface at an angle of $+45^\circ$ angle with respect to the Y axis.

7. (Previously Presented) The apparatus of claim 6, wherein the alignment light lines are separated laterally along the X axis by a distance W.
8. (Previously Presented) The apparatus of claim 7, wherein the alignment marks are scanned first by the light line with +45° orientation and subsequently by the line with -45° orientation.
9. (Previously Presented) The apparatus of claim 4, wherein the parallel lines comprise grooves having sidewalls terminating at the surface of the semiconductor body.
10. (Previously Presented) The apparatus of claim 9, wherein the grooves have bottomed portions recessed into the surface portion of the wafer body.
11. (Previously Presented) The apparatus of claim 4, wherein the apparatus comprises a detector arrangement.
12. (Previously Presented) The apparatus of claim 11, wherein the arrangement comprises a pair of detector configurations.
13. (Previously Presented) The apparatus of claim 12, wherein the configuration comprises a pair of detectors.
14. (Previously Presented) The apparatus of claim 13, wherein a first detector configuration comprises a first detector for detecting left +45° and a second detector for detecting right +45° lines.

15. (Previously Presented) The apparatus of claim 14, wherein a second detector configuration comprises a first detector for detecting left -45° and a second detector for detecting right -45° lines.
16. (Previously Presented) The apparatus of claim 13, wherein the pair of detectors record one or more waveforms.
17. (Previously Presented) The apparatus of claim 16, wherein the recorded waveforms are recorded without background noise from the other line orientation.